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Whitetop Control With Planned Grazing

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ABSTRACT

This report concerns a cattle grazing program initiated in 1987 on Alamosa National Wildlife Refuge to control tall whitetop (Lepedium latifolium) with a major goal of maintaining healthy and diverse plant communities containing vegetative cover attractive to wildlife. Grazing occurred on irrigated and sub-irrigated rangeland consisting primarily of a wet meadow range site. Since 1987 grazing season of use has been during the summer with cattle being moved through several pastures. Each pasture is grazed more than once during the season with several days of rest occurring before the same pasture is regrazed. Overall vegetative health and vigor have improved. Whitetop plants are still numerous; however, few plants produce seed stalks. Whitetop density is decreasing while grasses are increasing. Baltic rush (Juncus balticus) has remained relatively stable.

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Refuge Description and Environment

Alamosa National Wildlife Refuge is located in Colorado's San Luis Valley, 3 miles east of the town of Alamosa. The 11,169 acre refuge was established in 1962 for use as an inviolate sanctuary, or for any other management purpose, for migratory birds. The average annual temperature is 41 degrees fahrenheit. Average annual precipitation is 6.7 inches with a 96 day growing season. Refuge elevations range from 7,508 feet along the Rio Grande River to 7,576 feet along bluffs on the east side. The refuge contains about 400 acres of Rio Grande River riparian habitat, 1,500 acres of upland habitat, and 9,000 acres of wetland habitat. Wetland habitat is primarily maintained by irrigation water provided from the Rio Grande River.

Grazing Area - Range Sites and Plant Communities

Range sites in the 3,488 acre planned grazing area are primarily wet meadow with some salt meadow inclusions. Plant communities consist primarily of western wheatgrass, inland saltgrass, alkali sacaton, slender wheatgrass, tufted hairgrass, baltic rush, cattail, phragmites, and tall whitetop.

Planned Grazing - 3,488 Acre Area

From 1980 to 1987 the area was grazed in a 3 pasture rotational system where 1 pasture was grazed an entire season and 2 pastures were rested. The season of use was from July 15 to February 28. The goal of this system was to remove as much litter and growth as possible. A total of 1,600 AUM's were utilized annually.

In 1987, a goal of maintaining healthy and diverse plant communities which contain vegetative cover attractive to wildlife was adopted. The overall vegetative aspect of the area at this time was that of a monotypic stand of tall whitetop. This was especially true since whitetop growth is much taller than most of the grasses and other forbs making up the plant community.

In an attempt to achieve this goal, a part of which would require a reduced amount (or at least the aspect) of whitetop, in 1987 the area was divided into 5 pastures. Pastures were grazed 2 to 4 times between May 13 to September 28. Grazing periods in each pasture were 5 to 13 days. Rest periods before a pasture was regrazed ranged from 20 to 43 days. Total AUM's of utilization were 2,858 accomplished by 650 cow/calf pairs.

In 1988 the area was divided into 7 pastures. Pastures were grazed 3 times between May 15 to September 8. Grazing periods in each pasture were 3 to 5 days. Rest periods before a pasture was regrazed ranged from 38 to 50 days. Total AUM's of utilization were 2,741 accomplished by 1,900 yearling steers.

In 1989, the area contained the same 7 pastures. Pastures were grazed 2 to 4 times between May 1 to August 15. Grazing periods in each pasture were 3 to 6 days. Rest periods before a pasture was regrazed ranged from 22 to 39 days. Total AUM's of utilization were 3,180 accomplished by 1,200 yearling steers.

In 1990 the area contained the same 7 pastures. Pastures were grazed 2 to 4 times between May 10 to August 15. Rest periods before a pasture was regrazed ranged from 18 to 26 days. Total AUM"s of utilization were 2,612 accomplished by 1,200 yearling steers from May 10 to August 1 and 552 yearling steers from August 1 to August 15.

The detailed grazing/rest scheme occurring in 1990 was as follows:

PASTURE	ACRES	DATES GRAZED	NO. DAYS GRAZED	NO. DAYS RESTED BEFORE BEING REGRAZED
9b	572	5/10 thru 5/13	3	24
		6/5 thru 6/9	4	24
		7/3 thru 7/7	4	24
		8/1 thru 8/6	6	
9a	572	5/13 thru 5/16	3	24
		6/9 thru 6/13	4	24
		7/7 thru 7/11	4	
10a	612	5/16 thru 5/20	4	24
		6/13 thru 6/17	4	24
		7/11 thru 7/15	4	22
		8/6 thru 8/12	6	
10b	492	5/20 thru 5/24	4	24
		6/17 thru 6/21	4	24
		7/15 thru 7/19	4	
11a	460	5/24 thru 5/28	4	24
		6/21 thru 6/25	4	24
		7/19 thru 7/25	6	18
		8/12 thru 8/15	3	
11c	460	5/28 thru 6/1	4	24
		6/25 thru 6/29	4	26
		7/25 thru 7/31	5	
11b	320	6/1 thru 6/5	4	24
		6/29 thru 7/3	4	

Grazing Summary

YEAR	SEASON OF USE	TOTAL AUMS UTILIZED	TYPE OF GRAZING
1980 to 1987	July 15 to Feb 28	1600	Season long all in 1 pasture
1987	May 13 to Sept 28	2858	5 pastures - grazed with rest
1988	May 15 to Sept 8	2741	7 pastures - grazed with rest
1989	May 1 to Sept 15	3180	7 pastures - grazed with rest
1990	May 10 to Aug 15	2612	7 pastures - grazed with rest

Vegetative Monitoring

Results from a Vegetative Transect consisting of 100 points obtained by throwing a dart and then recording the nearest plant to the dart were:

OVERALL VEGETATIVE COMPOSITION

YEAR	% GRASS	% FORB(INCLUDING WHITETOP)	% BALTIC RUSH	% OTHER
1987	17	53	26	4
1988	35	28	30	7
1989	25	30	35	10
1990	49	20	24	7

FORB COMPOSITION ONLY

YEAR	% FORBS	% OF FORBS CONSISTING OF WHITETOP
1987	53	79
1988	28	60
1989	30	73
1990	20	55

MAJOR GRASS SPECIES COMPOSITION CHANGES FROM 1987 TO 1990

Saltgrass has increased from 3% to 28%
Western wheatgrass has increased from 2% to 15%
Alkali sacaton has increased from 2% to 3%

AVERAGE DISTANCE FROM DART POINT TO THE NEAREST WHITETOP PLANT

YEAR	DISTANCE IN INCHES
1987	--
1988	3.4
1989	4.4
1990	5.9

Summary

The planned grazing program initiated in 1987 on Alamosa National Wildlife Refuge is leading toward more healthy and diverse plant communities. Baltic rush, a primary waterfowl nesting cover, is remaining relatively stable; however, further assessment is needed on the vegetative cover aspects attractive to wildlife. The amount of tall whitetop making up the plant community is decreasing. Overall aspect has changed from one of a monotypic stand of whitetop to that of a wet meadow community.